Proposed approach for Mapping
Potentially Jurisdictional Waters of the United States, including Wetlands
for the Bay Delta Conservation Plan EIR/EIS

Introduction

The California Department of Water Resources (DWR) proposes the following approach for mapping wetlands and other waters potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE) that may be affected by Conservation Measure 1 (water conveyance facilities and operations) of the Bay Delta Conservation Plan (BDCP). This process will provide a comparison of potential wetland impacts of the alternative alignments of Conservation Measure 1 as described and analyzed in the BDCP EIR/EIS.

Preliminary Jurisdictional Identification Methodology

Our proposed method for mapping and quantifying potential Waters of the U.S. is based on analysis of electronic geographic data using a Geographic Information System (GIS). Field data will be collected at a limited number of accessible sites in support of this GIS-based determination.

The GIS analysis will use six primary data sources to identify areas within the Conveyance Planning Areas of the BDCP EIR/EIS conveyance alternatives that may constitute jurisdictional wetlands and other waters:

- DWR GIS dataset (2012) showing the study area and footprints of the different BDCP EIR/EIS Conveyance Alternatives
- 1-foot resolution true-color digital aerial photographs taken in May 2006 (Department of Water Resources 2006)
- 1-meter resolution true-color digital aerial photographs from the National Agriculture Imagery Program taken in summer of 2005, 2009, and 2010 (NAIP 2005, NAIP 2009, NAIP 2010)
- Soil data from the Natural Resources Conservation Service (NRCS 2010)

We will use aerial photography interpretation in a GIS to delineate potential wetlands within the Conveyance Planning Areas. Wetland mapping will follow protocols adapted from the Bay Area Aquatic Resource Inventory (BAARI) (San Francisco Estuary Institute 2011). To identify photographic signatures of natural hydrology under different precipitation conditions, additional sources of information may also be consulted,

including the California Department of Fish and Game GIS dataset showing vegetation and land use for the Sacramento-San Joaquin Delta ("DFG Vegetation GIS") (Hickson and Keeler-Wolf 2007), historical aerial imagery available on Google Earth and the USFWS National Wetland Inventory maps.

BDCP EIR/EIS Conveyance Alignment Alternatives

The features of the proposed BDCP EIR/EIS alternatives include canals, tunnels, intakes, forebays, pumping plants, staging areas, and borrow and spoil areas and are considered to have either permanent or temporary impacts. These features are stored in a geographic feature class within a geodatabase and will be used to determine the surface and subsurface footprint for each alternative.

NRCS Soils

DWR will consult NRCS soil maps of Alameda, Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties. The map units associated with hydric soils will be overlain on the project area map.

Wetland Types

Because nearly all of the project area is mapped by NRCS as having hydric soils, we will use aerial photograph interpretation of vegetation type and landscape position to identify potential jurisdictional wetlands and other waters. A preliminary classification includes the wetland types shown in Table 1with the corresponding type from the Cowardin classification system. This table may be refined during the mapping process.

Table 1. Land cover types that are potentially jurisdictional wetlands and other waters

Potential Wetland Type	

Potentially Jurisdictional Wetlands and Other Waters

A GIS data layer of wetlands and other waters will include all potentially jurisdictional waters, including those waters that may be later determined by the USACE to be isolated or otherwise non-jurisdictional. The GIS data layer of potential jurisdictional wetlands and other waters will be intersected with the surface features of the project footprint for each proposed alternative. The resulting maps will identify the areas of potential jurisdictional waters that fall inside the project features and acreages of each type of impacted wetland will be calculated.

Documentation

The final products will include:

- project study area maps
- a table of acreages for each type of potential jurisdictional wetland or other water within each alternative to be included in the EIR/EIS
- a crosswalk table showing each mapped potential wetland or other water type and the corresponding Cowardin classification

- a document describing the detailed mapping protocols used

Products will be available in both electronic and hard copy formats.

Wetland Mapping and the 404 Permitting Process

Once a project is chosen, this same approach will be used in the permitting process to compare the wetland acreage impacts of alternative locations of specific project facilities. DWR will use the resulting preliminary jurisdictional determination in an Alternatives Analysis as described in the Environmental Protection Agency (EPA) regulations for implementation of Section 404(b)(1) of the Clean Water Act (CWA). In a separate document, DWR will propose a method for evaluating the condition of these potentially jurisdictional wetlands and other waters. Together with other analyses, these evaluations will contribute to the identification of the Least Environmentally Damaging Practicable Alternative (LEDPA) for the conveyance component of the BDCP.

Before a CWA Section 404 and Section 10 Rivers and Harbors Act application is submitted to the USACE, further investigation may be conducted in the field to refine the boundaries of wetlands and other waters in this Preliminary Jurisdictional Determination following the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE, 2008), and appropriate guidance documents such as Regulatory Guidance Letter 05-05 and "A Field Guide to the Identification of the Ordinary High Water mark (OHWM) in the Arid West Region of the Western United States" (Lichvar and McColley 2008).

References

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